Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. (Currently amended) A method of detecting DNA markers, comprising:

providing a sample containing DNA from a human subject, wherein the DNA exists as acellular DNA in the subject; and

detecting one or more DNA markers selected from the group consisting of D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein said acelluar DNA is from a blood sample, serum sample or plasma sample.

2-5. (Canceled)

6. (Currently amended) A method of detecting melanoma, comprising:

providing a sample containing DNA from a human subject, wherein the DNA exists as acellular DNA in the subject; and

analyzing DNA markers in the *12q22-23* region comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 is indicative of melanoma, and wherein said acellular DNA is from a blood sample, serum sample or plasma sample.

7-11. (Canceled)

12. (Previously presented) The method of claim 6, wherein the melanoma is a primary melanoma.

13. (Previously presented) The method of claim 6, wherein the melanoma is a metastatic melanoma.

14-25. (Canceled)

26. (Currently amended) A method of monitoring progression of melanoma, comprising:

providing a melanoma tissue sample or a blood sample containing DNA from a human subject suffering from melanoma; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates the progression of melanoma in said subject.

27. (Currently amended) ~~The method of claim 26, wherein the sample is~~ A method of monitoring progression of melanoma, comprising:

providing a blood sample, a serum sample, or a plasma sample containing DNA from a human subject suffering from melanoma, wherein the DNA exists as acellular DNA in the subject; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates the progression of melanoma in said subject.

28-34. (Canceled)

35. (Currently amended) A method of predicting the efficacy of a melanoma biochemotherapy, comprising:

providing a melanoma tissue sample or a blood sample containing DNA from a human subject suffering from stage IV melanoma prior to administration of a biochemotherapy; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates poor efficacy of the biochemotherapy in the

subject, and wherein said biochemotherapy comprises dacarbazine, cisplatin, vinblastin, interferon[,] alpha-2b, IL-2, and tamoxifen.

36. (Currently amended) ~~The method of claim 35, wherein the sample is~~ A method of predicting the efficacy of a melanoma biochemotherapy, comprising:

providing a blood sample, a serum sample, or a plasma sample containing DNA from a human subject suffering from stage IV melanoma prior to administration of a biochemotherapy, wherein the DNA exists as acellular DNA in the subject; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates poor efficacy of the biochemotherapy in the subject, and wherein said biochemotherapy comprises dacarbazine, cisplatin, vinblastin, interferon alpha-2b, IL-2, and tamoxifen.

37-43. (Canceled)

44. (Currently amended) A method of determining the probability of melanoma survival, comprising:

providing a melanoma tissue sample or a blood sample containing DNA from a human subject suffering from a stage III or IV melanoma; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates that the subject has a low probability of surviving melanoma.

45. (Canceled)

46. (Currently amended) ~~The method of claim 44, wherein the sample is~~ A method of determining the probability of melanoma survival, comprising:

providing a blood sample, a serum sample, or a plasma sample containing DNA from a human subject suffering from a stage III or IV melanoma, wherein the DNA exists as acellular DNA in the subject; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates that the subject has a low probability of surviving melanoma.

47-51. (Canceled)

52. (Previously presented) The method of claim 44, wherein the melanoma is an RLM melanoma.

53. (Previously presented) The method of claim 44, wherein the melanoma is an ITM melanoma.

54-57. (Canceled)

58. (Currently amended) A method of determining the probability of responsiveness to a round of melanoma biochemotherapy, comprising:

providing a melanoma tissue sample or a blood sample containing DNA from a human subject suffering from stage IV melanoma prior to administration of ~~a~~ biochemotherapy; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates a low probability of responsiveness to the biochemotherapy in the subject, and wherein said biochemotherapy comprises dacarbazine, cisplatin, vinblastin, interferon[,] alpha-2b, IL-2, and tamoxifen.

59. (Canceled)

60. (Currently amended) ~~The method of claim 58, wherein the sample is~~ A method of determining the probability of responsiveness to a round of melanoma biochemotherapy, comprising:

providing a blood sample, a serum sample, or a plasma sample containing DNA from a human subject suffering from stage IV melanoma prior to administration of biochemotherapy, wherein the DNA exists as acellular DNA in the subject; and

analyzing DNA markers comprising D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein loss of heterozygosity of any of D12S1657, D12S393, D12S1706, and D12S346 indicates a low probability of responsiveness to the biochemotherapy in the subject, and wherein said biochemotherapy comprises dacarbazine, cisplatin, vinblastin, interferon alpha-2b, IL-2, and tamoxifen.

61-73. (Canceled)

74. (Previously presented) The method of claim 1, wherein the DNA markers consist of the combination of D12S1657, D12S393, D12S1706, and D12S346.

75-96. (Canceled)